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## AMERICAN ART INDUSTRIES—IV\*

### MANUFACTURE OF WALL-PAPER

Of the wholesome advice given by John Ruskin, no injunction was more important, and none has been productive of better results, than his insistent admonition to improve the character and quality of mural decorations. The critic, reformer, and friend of the masses plead—and plead wisely—for the home, on the ground that it was more vital that the habitations in which we live should have tastefully decorated walls than the public buildings which we rarely visit. And it is to the credit of the American designers and manufacturers that they have done so much within the last two decades on the lines laid down by Ruskin.

It has become almost a conventional form of speech to refer to the centennial year as the birth of the American Renaissance in art. Certainly it was the beginning of new tastes and new methods in the matter of wall-paper. At the great exposition at Philadelphia a twelve-color printing machine was exhibited, which turned out thousands of rolls of wall-paper in the presence of visitors. That machine, however wonderful as was its work, was but the prototype of the machines of the present time, and its finished product was but a promise of the finer wall-papers turned out by the best manufacturers of to-day.

At that time the purely American wall-paper was scarcely beautiful. Even the imported papers were of a comparatively inferior quality, since the Old World manufacturers had not yet felt the stimulus and influence of the demand from this side of the Atlantic. This influence has since quickened the English and French wall-paper makers more than the demands of their home markets. To-day the most varied and most original wall-papers are made in this country, and as a consequence; the demand for imported products has greatly decreased.

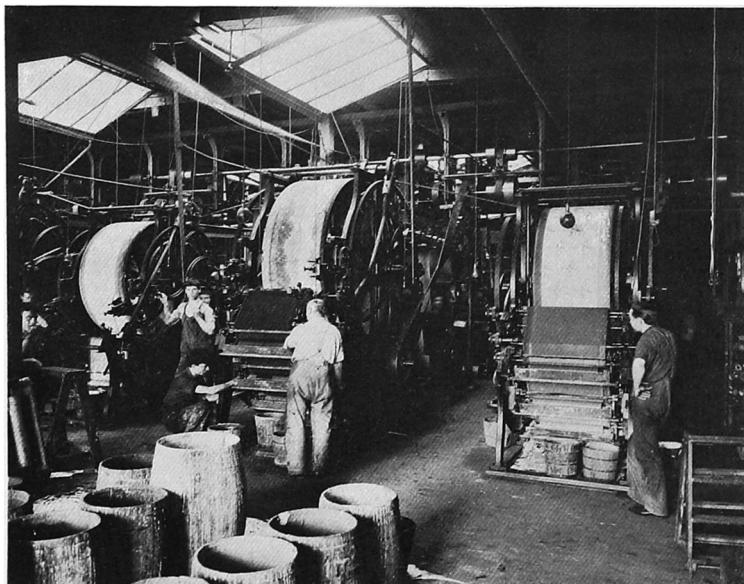
An important factor in this wonderful development is the varied architecture of the land, covering, as it does, every known school and period, and combining all types and classes until they seem actually to have resolved themselves into new forms and styles. Diversity of needs has naturally given rise to diversity of designs, and the evolution of American wall-paper has kept pace with the development of popular taste.

This marked advancement in the art of printing wall-paper is, therefore, not wholly a measure of the skill and resources of the

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American manufacturer: it is rather a witness of the general growth and cultivation of the people. The manufacturer, in point of fact, has often stood ready with wares far in advance of the people's demands. He has naturally found that too much progress has entailed financial loss, and he has therefore been forced to keep pace with consumers, or, at best, venture but a halting step before them. This is quite as true to-day as it ever was.

The proportion of really good wall-paper is not limited by a lack

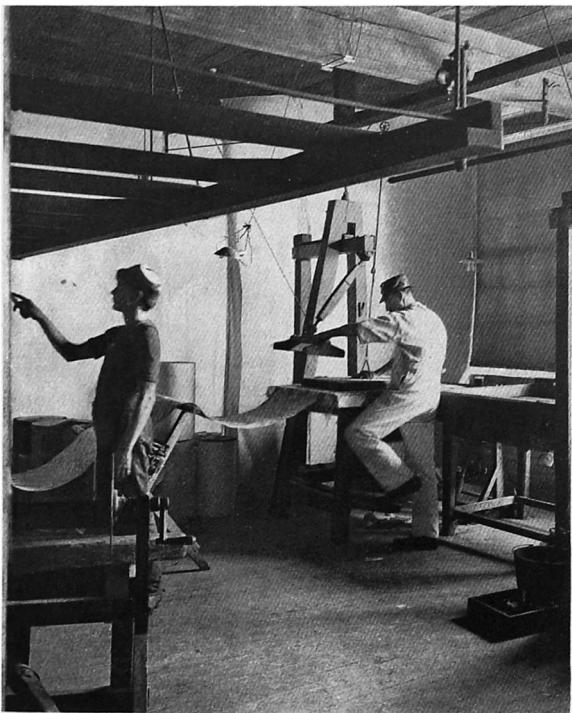


MACHINE-PRINTING OF WALL-PAPER

of skill on the part of the producer, but by an as yet undeveloped taste on the part of the people. Wall-paper, if artistic, is a lasting joy, but it is this only to those whose taste has been cultivated to the point of appreciating it. For the masses whose tastes have not been so cultivated, manufacturers must perforce continue to produce a mere article of commerce, something that meets a demand and finds a ready sale.

The cry sent up by some, that more art is required in wall-paper, is through a lack of knowledge of some interesting facts connected with its production. It would distress the artistic reformer to see

the kind of wall-paper of commerce that really "sells." The signs, however, are hopeful, and the demand is making the production of better things profitable to manufacturers. Each year the grade of this popular paper, as it is called, is raised slightly, until now we stand far in advance of where we stood twenty years ago, with a bright outlook for the future. It is not, therefore, a cause for



HAND-PRINTING OF WALL-PAPER

distress to contemplate some of the inartistic wares one comes across, for this is merely the wall-paper of commerce.

Every grade of society must have its wall-paper. Not so with wrought iron nor stained glass, nor, in fact, with any other branch of decorative art. Wall-paper is unique in its field, æsthetic and commercial, and separates itself into these classes in a subtle manner, difficult for the expert himself to follow, but at the same time most vital.

The constant effort of the American manufacturer of wall-paper is

to secure novelty, and yet each new step must have a distinct bearing upon what went before, although it need not resemble it at all as far as the unpracticed eye can detect. In no other country is this true. The French designers, men of almost infinite skill, have worked in



DECORATIVE BOUQUET DESIGN

this field of art rather after the Japanese artist, who has a limited number of forms, and arranges and rearranges them in an endless variety in securing his effects. One might almost say that the French designs of wall-paper had but three separate forms—one the set bouquet, with its surrounding scroll; one a stripe, either plain

or ornate; and the third, what is known as a "trail," or random growth. The former is really the typical French pattern, and has its variety chiefly in its arrangement of the elements and the degree of perfection with which it is rendered.

It is not at all uncommon for American and English designers, connected with manufacturing establishments, to visit these French designers in their studios and furnish them with schemes and rough drafts of designs, which are then very successfully amplified and painted by these skillful artists. But left alone, there seems little hope of the French designers arriving at the immense variety of styles that the American producer shows. By limiting himself to these few forms, the French designer reaches a wonderful degree of perfection in his technique, and it is this rather than the variety of decorative possibilities that attracts one to his work.

The policy of the American designer and manufacturers has been to furnish a wide gamut of final decorative effects, rather than a series of carefully rendered figures, so to speak, which do not always resolve themselves into a pleasing whole. It is especially difficult to secure this great variety of forms owing to the fixed limitations in the sizes of the designs. Most patterns are practically eighteen inches square, some are twenty inches, but great skill is required even then to prevent all patterns looking more or less as though from the same mold, owing to this uniformity of dimension. In meeting this difficulty American designers have been singularly successful.

As with all kinds of enterprise that fall within the scope of the art industries, the work of the designer is all-important. Primarily, wall-paper was but a substitute for textile fabrics, and many of the evils that modern designers have had to combat are a direct out-growth of the misdirected effort to imitate tapestries and the like. This imitation has checked the growth of better methods, and the best designers of to-day are those who, for the most part, have renounced time-honored models and have gone to nature for their suggestions.

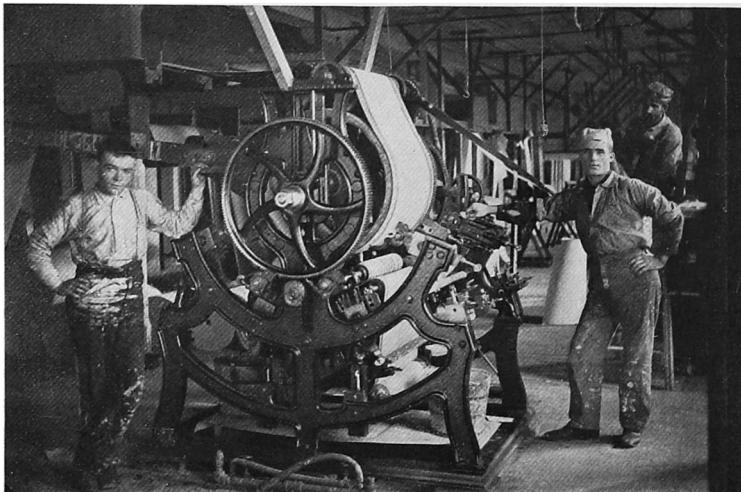
It will readily be seen that in the matter of wall-paper designed to supply the demands of the multitude, it is impossible to establish any absolute standard of taste. The designer, therefore, is obliged to study both the requirements and limitations of his art and the whims and notions of a varied public. With these ever in mind, he undertakes to get the best possible decorative results.

Speaking in general terms, a design should be graceful, flat, with good balance of line and color. It should have flowing curves and an absence of petty detail, with a general upward growth and an absence of diagonal lines. It must be something inherently beautiful, devoid of the grotesque, the eccentric, and the ugly.

The designer, therefore, must be both an idealist and an inventor

—an idealist, because the mere realistic reproduction of anything by way of a pattern in mural decoration is undesirable, even the most skillful copy being out of place in wall-paper; an inventor, because every step in general culture demands a corresponding step in designs; and the man without inventiveness is prone to be a servile copyist and to lag behind his times.

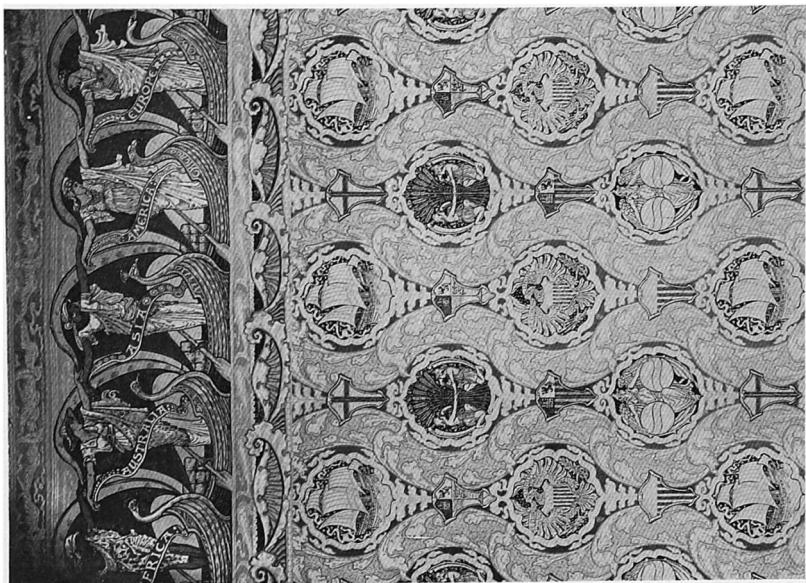
Designers have established certain principles which it may be well to summarize here, that the reader may understand some of the difficulties incident to the production of an artistic piece of wall-paper. No one portion of the design should be unduly prominent and assert



MACHINE-PRINTING OF WALL-PAPER—DIFFERENT TYPE OF MACHINE

itself to the detriment of the paper as a whole. All purely decorative designs are but a tissue of repetitions, and the lines must be so repeated as not to leave ugly gaps or to make awkward forms. Above all, no combination of lines and colors must be regarded as a picture, but must be considered from the point of view of making an harmonious and graceful decoration when repeated over a broad expanse of surface. Hence, by an exercise of imagination, the designer must cultivate the habit of seeing the effect of a figure or combination of figures thus repeated. He must balance his forms and his colors with a nicety, else the product, when completed, will be a sorry disappointment.

After a completed sketch is made, and is transferred to the



SYMBOLIC DESIGN  
By Walter Crane



RANDOM TRAIL DESIGN



BOUQUET SCROLL DESIGN



FRENCH STRIPE DESIGN

ground on which it is to serve as a decoration, the all-important matter of the color scheme has to be determined. Masses of color have to be put in broadly and simply, otherwise the colors are apt to look like disfiguring blots. Fine details, as a rule, are out of place, since they are apt to militate against artistic results and at the same time are a handicap to the manufacturer, since it must ever be borne in mind that a design that lends itself to only one color scheme is apt to be a financial failure. It is the old question of tastes, cultivated and uncultivated. A given design in one color scheme would please a certain class of purchasers and possibly displease a more numerous class. One will demand a combination of blues, another of buffs, another of reds, and so on; and it is therefore of prime importance to the manufacturer to have designs that are susceptible to different treatments so as to make his accepted designs meet the demands of the greatest possible number of consumers.

The methods of producing wall-paper are, perhaps, the most fascinating of any employed in artistic manufacturing. It seems impossible that the dainty little chamber paper, with its pink blossoms and moire silk background, could have come out of that great lumbering machine with its seemingly unpropitious environment. And yet the mechanical contrivances are so cunningly devised that a serious mishap is almost unknown. Pails of color run into little troughs under the machines, and "bundles" of paper fed in at another place by picturesquely spattered boys, yield just the result desired.

Manufacturers divide all wall-paper into two general classes, "hand" and "machine." The former is practically the original method of the "paper-stainers," as they were called when the work was done on separate sheets of paper, long before the art of making a continuous strip was known. By this method many results are obtained which are impossible in the machine-made article, the colors being applied block by block, each color being allowed to dry before the next is applied.

Machines are made in several sizes, those for patterns of one color up to the great "twelve-color" machines. Beyond this size it has not been found practicable to build them. The principle of the machine is very simple. It consists of a slowly revolving drum, or cylinder, upon the surface of which the blank paper is held while it engages in its rotary course, and a series of smaller rollers, each containing a single element of the pattern in its own color. The aggregation of these rollers produces the whole pattern.

So in the case of a flower-and-leaf pattern having say twelve colors: the big drum carries the blank paper around until it receives first a series of pink blotsches. Passing on its course it receives a number of deeper reds, and still farther on a very deep tone. If we stopped it there, we should see a beautiful rose, with no stems or

leaves. But going on, it is met by the roller whose work it is to print the "light leaf," as it would be called, then a deeper shadow, and perhaps a series of shades used in the modeling. Thus the paper passes in its course around one revolution of this drum and makes its complete collection of an impression from each roller in turn. It is then taken off to the "racks" by clever mechanical contrivances, to hang in long festoons over the steam-heated pipes to dry.

There is, perhaps, no part of the industry so bewildering to the outsider as these same little rollers. In accuracy of work and intrinsic beauty they are marvelous. They are made of selected maple, and upon the beautifully finished surface of each roller the design is accurately traced. If it be a design in "six colors," six rollers are prepared, each having the *whole* pattern traced upon its surface. Then each roller is given its particular office by having its own color built up from the surface of the roller, like a type.

This is done by what is called "brassing," which consists of cutting into the roller at the outer edge of one of the colors on its surface, and then driving a ribbon of brass into this cleft until it stands up about a half-inch, forming a little wall about this element of the design. The space inside this little inclosure is fitted with a pad of felt, which is to take the color in the operation of printing. The skill and accuracy required in cutting these brassed rollers is wonderful. The "block-cutter," as he is called, looks for a moment at some complicated curve, and with a few twists he has fashioned the strip of brass which he holds in his hand in exact imitation of the form, and the strip of brass is hammered into the roller.

So long as the colors in a machine-made paper remain separate or nearly so, the effect is clear-cut and sharp, but falling as they do in rapid succession, all quite wet, they are bound to run one into the other more or less. In many instances this is desirable, but for patterns where this would injure the effect desired, the old method of hand-printing is resorted to.

This consists of printing from flat blocks of wood varying in size according to the length of the pattern to be produced. Usually, however, they are twenty inches wide by thirty or so long. As in the case of machine-printing, each color has its own separate block, which has carved on its surface a part of the design representing one of its colors, or the whole design if it is to be printed in one color.

These blocks are supplied with color by dipping them into pads of color, like inking a stamp of any kind. The paper is passed over a table and printed upon, and is then hung up to dry. Later it is brought down to receive its next color, and so on.

ARTHUR C. WOOD.